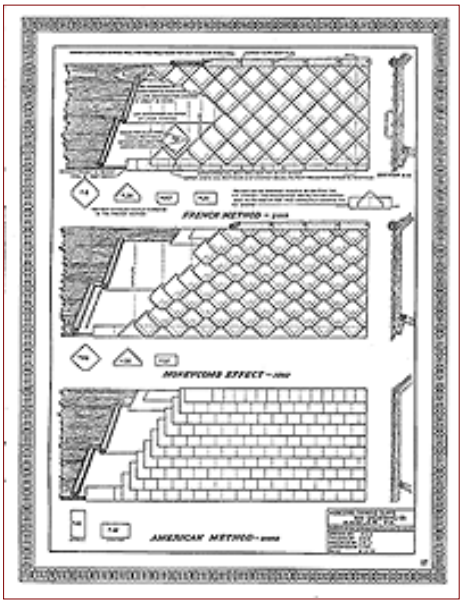
ROOFING FOR HISTORIC BUILDINGS

Asbestos-Cement Shingles

The Asbestos Shingle, Slate, and Sheathing Company touted the advantages of their shingles with depictions of successful installations in their 1927 promotional catalog and price list. (**The Catalog of Johns-Manville Building Materials, Home Owners' Catalogue, A Guide to the Selection of Building Materials Equipment and Furnishings**, F. W. Dodge Corporation, 1936. Courtesy of The Sweet's Group-The McGraw-Hill Companies, Inc.)

In the United States, mechanized production of asbestos-cement shingles began in the first decades of the 20th century, following Austrian Ludwig Hatschek's invention of a process in 1900 to manufacture rolled and pressed asbestos-cement sheets. Hatschek's patent, reissued in United Stated in 1907, led to a rapid proliferation of the new shingles. One early American manufacturer, Eternit, took their company name from the title Hatschek had given his process.

Made from asbestos, an inorganic, fibrous mineral, and Portland or hydraulic cement, asbestos shingles were lightweight, economical, and fireproof. Manufacturers promoted their shingles as substitutes for traditional roofing materials such as slate, wood, and clay.



Manufacturers of asbestos-cement shingles and other asbestos building products appealed to architects and builders directly with extensive advertising campaigns. These drawings accompanied Architects's Specification included in a publication of the Asbestos Shingle, Slate & Sheathing Company. [click image for larger view]

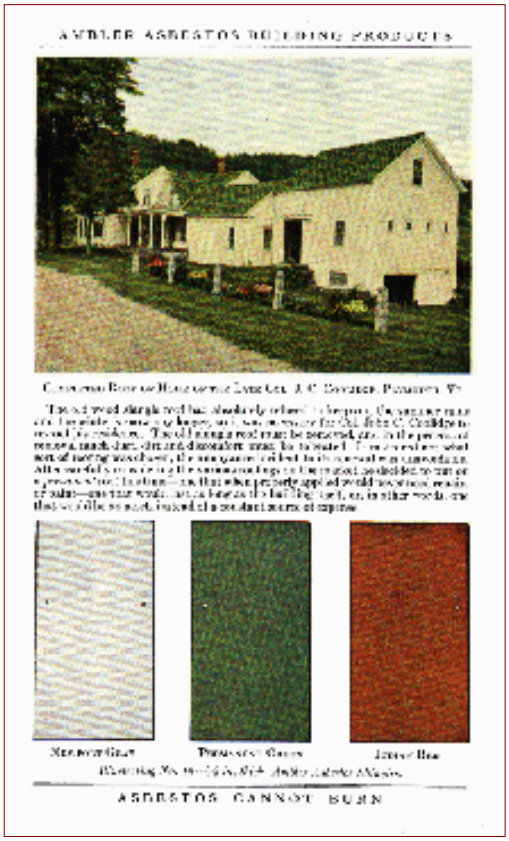
The Asbestos Shingle, Slate and Sheathing Company proclaimed in 1910: " ...these Asbestos Singles or Slates are so immeasurably superior in point of practical merit to that of any natural slating that nothing remains to be said."

A variety of shingle colors could be created by adding pigments to the wet mix before pressing or by rolling pigments onto the surfaces of shingles. Colors imitating slates, including Indian Red and Newport Gray, were common, but many other colors were available. Manufacturers assured potential customers that their shingles were colorfast. Unfortunately, many early asbestos-cement shingles faded over time, causing Columbia professor H. Vandervoort Walsh to exclaim in 1922: "For this reason we see on every hand red asbestos-shingle roofs which have bleached to sickly and thirsty pinks."

Concrete Roofing Tile

Not all cementitious roofing products were asbestos-based. Concrete roofing tiles, which date from the 1840s, were produced in Germany by Adolph Kroher, a manufacturer of cement and concrete products, who developed a machine and process for pressing concrete tiles that resembled shingles. In the United States, as the concrete industry developed in the first decade of the 20th century, cast-in-place concrete roofing systems - and systems assembled with concrete slabs - evolved. The American Cement Tile Manufacturing Company, for instance, advertised "Cementile," a large (2 feet by 5 feet by 1 1/2 inches) steel-reinforced cement tile roofing, or slab, in the 1929 issue of **Sweet's Architectural Catalogue**. "Cementile" was offered as a flat sheet for sheathing or as an interlocking tile for a finished, watertight roof covering. Such roofing products found principal application for industrial buildings. Smaller concrete roofing tiles were available in the United States from companies such as Hawthorne in Chicago by the late1920s. Hawthorne's roofing tiles, available in no fewer than fourteen colors, simulated Spanish and French Clay tiles. Unlike asbestos-cement shingles, which were nailed in place, concrete tiles were interlocking and laid on hanger strips. Hip and ridge tiles were nailed in position and holes were then pointed with matching mortar.

The hydraulic pressing process enabled the shingles to be given a texture, such as a rough rustic surface or one imitating weathered wood. The many styles and sizes of asbestos-cement shingles available, made possible roofs laid in various methods including American, Dutch Lap, and French (known in several variants as hexagonal, honeycomb or diamond). The French method was particularly popular for asbestos roofing, capitalizing on the economy of the material itself by laying it in an efficient manner requiring minimal overlap. Installation of asbestos shingles was similar to slate. Shingles could be punched, filed, or trimmed to size in the field by roofing contractors. Companies such as behemoth Johns-Manville and The Asbestos Shingle, Slate, and Sheathing in Ambler in Pennsylvania promoted asbestos shingles not only for new construction but also for roofing over existing roofs.



Johns-Manville promoted the direct application of their asbestos-cement shingles over worn roofing in this 1936 catalog. The Dutch Lap roof being applied here was easy to install and utilized a metal "clincher" to anchor exposed corners. (**Home Owners' Catalogue, A Guide to the Selection of Building Materials Equipment and Furnishings**, F. W. Dodge Corporation, 1936. Courtesy of The Sweet's Group-The McGraw-Hill Companies, Inc.) [click image for larger view]

In addition to shingles, corrugated asbestos-cement sheathing, sometimes called asbestos building lumber, was produced by many manufacturers as a substitute for corrugated iron roofing. Used principally for industrial applications, corrugated asbestos could be laid directly on steel roof purlins. Industrial buildings in particular benefited from the fireproofing qualities of asbestos-cement.

Both asbestos-cement shingles--and siding--were produced into the 1980s, testimony to their popularity and affordability. The countless buildings with this roofing material also attest to the durability of the product.

Chicago-based Hawthorne Roofing Tile Company originally manufactured its tile from slabs by a hand-process. These concrete roofing tiles depicted in the 1929 **Sweet's Architectural Catalog** imitated French and Spanish clay tiles. They were produced with automated power-driven equipment, and the colors were impregnated on the tile surface. (**Sweet's Architectural Catalogue, 1939. Courtesy of the Sweet's Group**, McGraw Hill Companies, Inc.) [click image for larger view]

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